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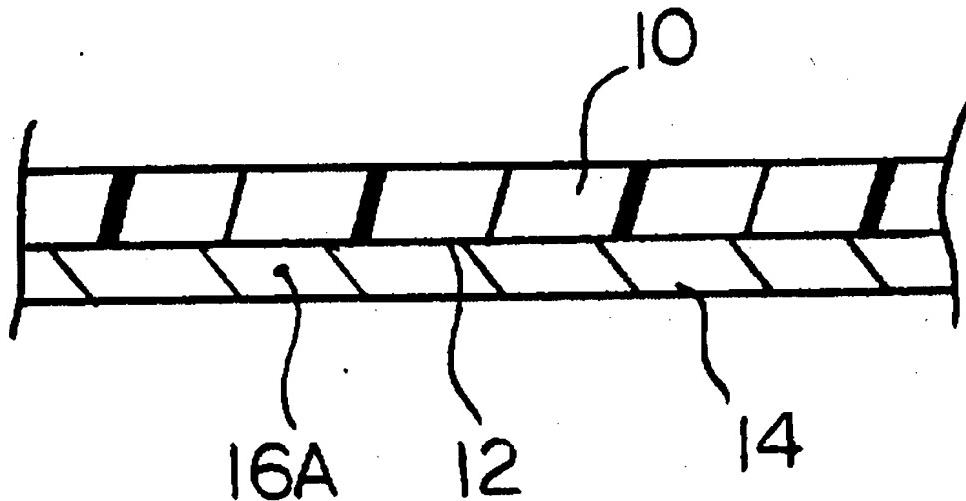
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102(e)

(54) Titre : RUBAN ADHESIF DE COULEUR

(54) Title: COLORED ADHESIVE TAPE



(57) Abrégé/Abstract:

A colored tape arranged for attachment as individual tabs to a paper stock is formed by applying a layer of EVA adhesive in liquid form to a base film of PET so as to cover one surface of the base film and including admixed in the layer of liquid EVA coloring pigments and/or dyes such that when the layer of liquid EVA is dried to leave an EVA coating thereon, the coating is colored by the pigments and/or dyes to form a colored tape.

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ABSTRACT

A colored tape arranged for attachment as individual tabs to a paper stock is formed by applying a layer of EVA adhesive in liquid form to a base film of PET so as to cover one surface of the base film and including admixed in the layer 5 of liquid EVA coloring pigments and/or dyes such that when the layer of liquid EVA is dried to leave an EVA coating thereon, the coating is colored by the pigments and/or dyes to form a colored tape.

## COLORED ADHESIVE TAPE

This invention relates to a method of forming a colored adhesive film and to a tape formed by the method.

### BACKGROUND OF THE INVENTION

5        Tapes which are typically used for forming tabs for attachment to paper have been formed in prior art methods as described hereinafter and the tapes are subsequently cut into individual tabs which are arranged for attachment to a paper sheet to form a colored tab. Such colored tabs have a requirement for a bold color since the function of the tab primarily is to act as a marker or indicator for visually  
10      distinguishing the paper sheet or a file folder to which the tab is attached.

In addition the adhesive of the tab must have sufficient strength to maintain a proper position on the paper sheet. The adhesive must therefore provide sufficient strength such that removal of the tab causes tearing of fibers of the paper substrate, as determined by a simple pulling test on the tab when applied to the  
15      paper stock.

Previous tapes have been formed from a base form of PET, commonly having a thickness of the order of 0.002 inch. This thickness provides sufficient strength in the base film such that the film cannot be readily torn when applied to the paper substrate. This film has the necessary transparency so that the color can be  
20      viewed through the thickness of the film without interfering with the clarity of the color or the boldness of the color.

In one method for manufacturing a film of this type for subsequent slitting into tape and subsequent cutting into tabs, the base film of PET is co-extruded with a covering layer on one surface of the base film of EAA where the  
25      EAA is mixed with the color pigments to provide the required colored layer. Thus the film is simple and relatively inexpensive since it is formed solely of the two layers.

However this method has the significant disadvantage that the co-extrusion process requires large capital investment on equipment so that there is a significant disincentive to run small batches of the material.

- Up till now, smaller batches have been manufactured using a sheet of
- 5 the base film of PET which is then laminated to a commercially available sheet of a thinner layer of PET acting as a carrier layer for a coating of EVA. The commercially available sheet of co-extruded PET and EVA is available without coloring so that the coloring of the combined laminate is effect by providing an adhesive between the main PET layer and the composite sheet where the adhesive carries the pigment
- 10 and/or dyes and therefore acts as the coloring of the laminated sheet material.

This construction has performed satisfactorily and provides both the necessary color characteristics and the necessary aggressiveness of the adhesive. However, the construction is relatively complex and includes additional layers and additional lamination processes which significantly acts to increase the cost of the

15 finished product.

#### SUMMARY OF THE INVENTION

It is one object of the present invention, therefore, to provide an improved method of forming a colored adhesive film.

- According to one aspect of the invention there is provided a method for
- 20 forming a colored adhesive film comprising:

providing a base film of a polymeric material having a first surface and a second surface;

applying a layer of EVA adhesive in liquid form so as to cover the first surface of the base film;

and including admixed in the layer of liquid EVA coloring pigments and/or dyes such that when the layer of liquid EVA is dried to leave an EVA coating thereon, the coating is colored by the pigments and/or dyes to form a colored tape.

- Preferably the method includes longitudinally slitting the film and the
- 5 EVA coating thereon into a plurality of side by side tapes and winding the tapes into individual supply packages for supply to an end use machine.

Preferably the base film is PET.

Preferably the base film and the EVA coating are cut into a plurality of colored tabs which are arranged for bonding to a paper sheet as a tab thereon.

- 10 Preferably the base film and the EVA coating are cut into a plurality of colored tabs which are bonded by the EVA coating to a paper sheet as a tab thereon.

Preferably the base film has a thickness in the range of 0.00048 inches to 0.0040 inches.

- 15 Preferably the tabs consist solely of the base film and the EVA coating.

#### BRIEF DESCRIPTION OF THE DRAWINGS

One embodiment of the invention will now be described in conjunction with the accompanying drawings in which:

- Figure 1 is a side elevational view of a method for forming a colored adhesive film according to the present invention.
- 20

Figure 2 is a cross sectional view of a portion of the film of Figure 1.

Figure 3 is a cross sectional view of a tab formed from the film of Figure 2 attached to a paper substrate.

- In the drawings like characters of reference indicate corresponding parts in the different figures.
- 25

DETAILED DESCRIPTION

In Figure 1 is shown a process for manufacturing a film having a visible color and having an adhesive layer on one surface. The method comprises providing a base film 10 in a roll of the film. The film is unwound through a drive system 11 for supply into the process. The film has an upper surface 12 and a bottom surface 13.

On the surface 12 is applied a layer 14. The layer 14 is a liquid layer formed from a liquid EVA 15 admixed with pigment 16 in a mixing chamber 17. As shown the application system comprises a gravure roller 18 onto which the liquid mixture is applied so that the roller 18 carries the liquid onto the surface to be applied as a coating layer covering the whole of the surface 12.

Other coating systems well known to one skilled in the art can be used.

Downstream of the coating process, the film and the layer are passed through a heating chamber to drive off solvent from the liquid layer applied thus leaving the coating carried on the film.

When the solvents are driven off, the film is slit using a slitting system 19 to divide the film into a plurality of side by side tapes which are wound onto a winding system schematically indicated at 20.

The individual rolled packages formed in the winding system 20 are supplied to an end user who acts to cut the tapes into individual tabs which are then supplied to customers in a suitable packaged form well known to one skilled in the art for application of the individual tab to a paper sheet.

In Figure 2 the base film layer 10 has on its surface 12 the layer 14 of EVA with pigment and/or dye components 16A admixed into the EVA and thus spread throughout the EVA layer as the solvents are driven off. The pigments or

dye can be viewed directly from the side of the layer 14 or can be viewed through the base film 10 as a bold clear color.

- In Figure 3 is shown the use of a tab 25 attached to a sheet 26 of a paper substrate. The layer 10 is exposed outwardly and the adhesive layer 14
- 5 attaches the base film to the outside surface of the paper substrate. Again the color can be viewed through the film 10 thus making the tab have the appearance of the bold strong color defined by the pigments or dye within the layer 14.

- The liquid EVA is formed by an admixture of EVA which is a heat seal material INSERT FURTHER DETAILS contained in solution in solvents such as
- 10 normal propyl acetate, ethyl acetate and water. An example of such liquid EVA is available from Rohm and Haas.

- Suitable pigments and/or dyes are available to one skilled in the art from various suppliers and utilize conventional color coding techniques to ensure that a particularly required color can be generated by a single one of the pigments or
- 15 by admixtures of pigments.

The liquid EVA can be admixed with the pigments to provide a solution which can be applied using the gravure roller. Admixing techniques are known to one skilled in the art which will provide a suitable suspension of the pigments in the solution while the EVA remains in solution within the solvents.

- 20 The admixture remains sufficiently liquid for application by conventional liquid application techniques.

- The liquid EVA available from the above supplier provides, when coated and dried, a sufficient level of aggressiveness to provide the paper tear strength required for the tabbing application. At the same time the same product
- 25 allows the application of the pigments without affecting the coating ability or the aggressiveness of the adhesive.

Since various modifications can be made in my invention as herein above described, and many apparently widely different embodiments of same made within the spirit and scope of the claims without departing from such spirit and scope, it is intended that all matter contained in the accompanying specification shall

5 be interpreted as illustrative only and not in a limiting sense.

## CLAIMS:

1. A method for forming a colored tape comprising:  
providing a base film of a polymeric material having a first surface and  
a second surface;  
5 applying a layer of EVA adhesive in liquid form so as to cover the first  
surface of the base film;  
and including admixed in the layer of liquid EVA coloring pigments  
and/or dyes such that when the layer of liquid EVA is dried to leave an EVA coating  
thereon, the coating is colored by the pigments and/or dyes to form a colored tape.
- 10 2. The method according to Claim 1 including longitudinally slitting  
the film and the EVA coating thereon into a plurality of side by side tapes and  
winding the tapes into individual supply packages for supply to an end use machine.
3. The method according to Claim 1 wherein the base film is PET.
4. The method according to Claim 1 wherein the base film and the  
15 EVA coating are cut into a plurality of colored tabs which are arranged for bonding to  
a paper sheet as a tab thereon.
5. The method according to Claim 4 wherein the base film and the  
EVA coating are cut into a plurality of colored tabs which are bonded by the EVA  
coating to a paper sheet as a tab thereon.
- 20 6. The method according to Claim 1 wherein the base film has a  
thickness in the range 0.00048 inches to 0.004 inches.
7. The method according to Claim 4 wherein the tabs consist  
solely of the base film and the EVA coating.

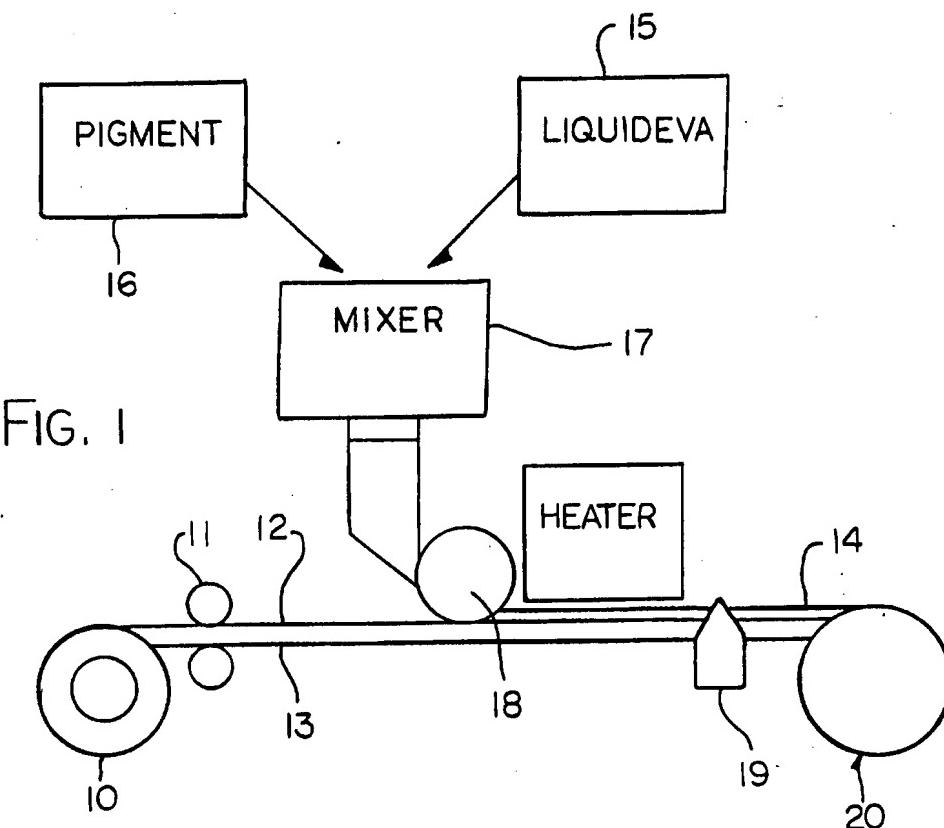
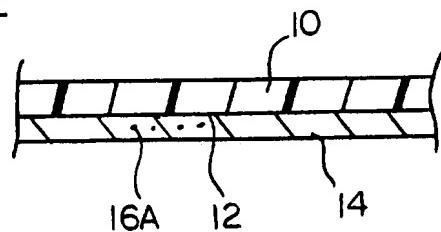


FIG. 1

FIG. 2



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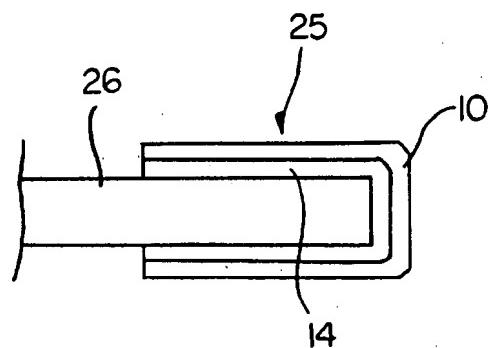


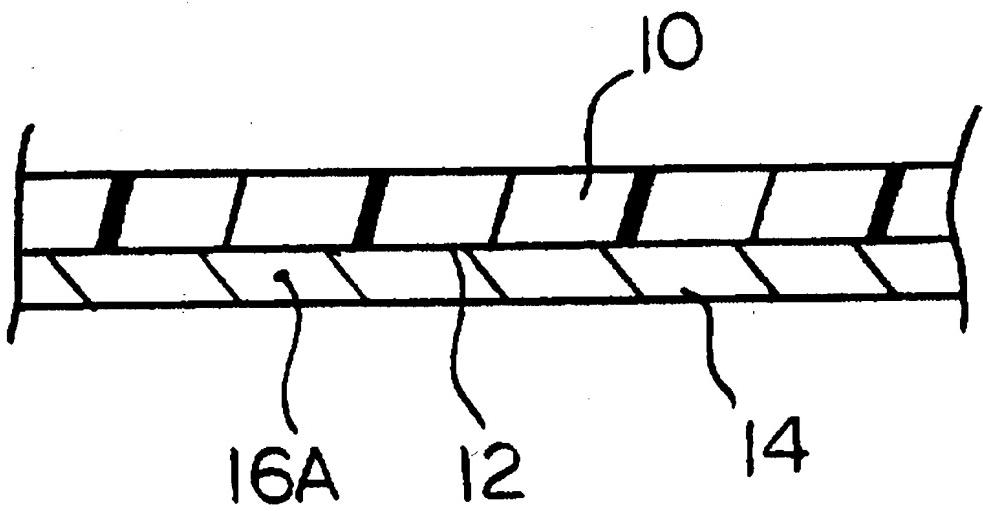
FIG. 3

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TITLE: Formation of colored tape for attachment as individual tabs to paper stock involves applying layer of liquid ethylene vinyl acetate adhesive on first surface of base film and adding coloring pigments and/or dyes to the adhesive layer

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PATENT-ASSIGNEE: KT IND LTD[KTINN]

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ABSTRACTED-PUB-NO: CA 2314283A

**BASIC-ABSTRACT:**

**NOVELTY** - A colored tape is formed by providing a base film (10) of polymeric material having two surfaces, applying a layer of ethylene vinyl acetate adhesive in liquid form to cover the upper surface (12) of the base film, and adding coloring pigments and/or dyes to the adhesive layer (14) such that when the adhesive layer is dried, an ethylene vinyl acetate coating is left in the layer.

**USE** - For forming a colored tape for attachment as individual tabs to a paper stock.

**ADVANTAGE** - The inventive method provides a tape having satisfactory color characteristic and aggressiveness. It allows the application of pigment (16A) without affecting the coating ability or the aggressiveness of the adhesive.

**DESCRIPTION OF DRAWING(S)** - The drawing shows a cross-sectional view of a film of the adhesive film.

Base film 10

Upper surface of film 12

Adhesive layer 14

Pigment 16A

**CHOSEN-DRAWING: Dwg.2/3**

**TITLE-TERMS: FORMATION COLOUR TAPE ATTACH INDIVIDUAL TAB PAPER STOCK  
APPLY**

LAYER LIQUID ETHYLENE VINYL ACETATE ADHESIVE FIRST SURFACE BASE

FILM ADD COLOUR PIGMENT DYE ADHESIVE LAYER

DERWENT-CLASS: A17 A81 G03

CPI-CODES: A04-G07; A12-A01; G03-B02D2; G03-B02D3; G03-B04;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

2004 ; R00326 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D82  
; R00835 G0566 G0022 D01 D11 D10 D12 D51 D53 D58 D63 D84 F41 F89  
; H0022 H0011 ; S9999 S1650 S1649 ; P1150 ; P1310

Polymer Index [1.2]

2004 ; ND07 ; N9999 N7147 N7034 N7023 ; K9574 K9483 ; N9999 N5721\*R  
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Polymer Index [1.3]

2004 ; K9563 K9483 ; B9999 B5301 B5298 B5276 ; Q9999 Q6644\*R ; Q9999  
Q7114\*R

Polymer Index [2.1]

2004 ; P0884 P1978 P0839 H0293 F41 D01 D11 D10 D19 D18 D31 D50 D63  
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Polymer Index [2.2]

2004 ; ND07 ; N9999 N7147 N7034 N7023 ; K9574 K9483 ; N9999 N5721\*R  
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Polymer Index [2.3]

2004 ; B9999 B5447 B5414 B5403 B5276 ; N9999 N7090 N7034 N7023 ;  
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